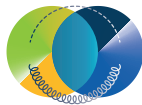


Initial Activities of the Sustainability Committee

Philip Bechtle, Chris Delitzsch, Jack Jenkins, Stefan Krieg, Dirk Wiedner



color meets flavor

March 10th 2026

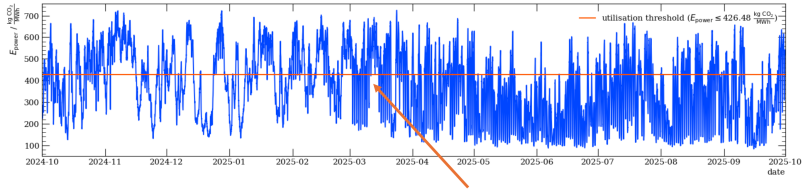
Participants so far

- ▶ Do: Chris Delitzsch, Dirk Wiedner
- ▶ Si: Jack Jenkins
- ▶ Jü: Stefan Krieg
- ▶ Bo: Philip Bechtle
- ▶ Many more volunteers welcome

- ▶ subscribe on `cmf-sustainability@listen.uni-bonn.de`

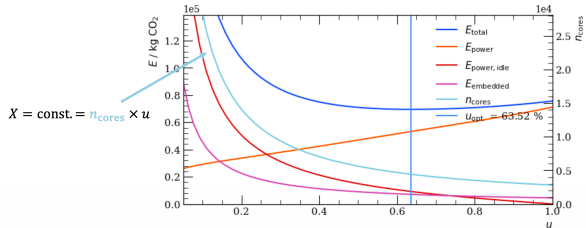
Example: Sector Coupling in Computing

- In cooperation e.g. with Öko-Institut Freiburg in the SUSFECIT ErUM-Data Consortium → paper in preparation for submission latest in April



Set cluster operation threshold

$$E_{\text{tot}}[\text{kg CO}_2](u) = \frac{X}{u} (E_{\text{embedded}} \times t_{\text{total}} + P_{\text{avg.}} \times \sum_i (E_{\text{power}, i} \times t) + P_{\text{idle}} \times \sum_j (E_{\text{power}, j} \times t))$$



ToDo's

- ▶ Documentation of running projects with direct or indirect sustainability aspects:
 - ▶ More precise accounting of CO_2eq saved by our contributions to moving our detector cooling towards N_2 or CO_2 **participants from the detector side sought**
 - ▶ Documentation of energy saved (maybe not CO_2eq , depending on PPA) through ELSA upgrades **participation from ELSA side welcome**
 - ▶ Documentation and lobbying of our institutions towards green power purchasing agreements
 - ▶ Documentation of CO_2eq budget per paper → ideas for accounting
- ▶ Active projects to reduce our climate impact
 - ▶ Sector coupling in computing (see above)
 - ▶ Make concrete recommendation sfor travel in CmF
- ▶ Sustainability goes beyond ecological sustainability → FAIR principles
- ▶ Any other good idea

Connections to other areas: Research Data Management

- ▶ It saves infinite amounts of work to have an open, efficient, sustainable and interoperable research data lifecycle
- ▶ Projects under our participation in PUNCH4NFDI
- ▶ Examples:
 - ▶ Very successful standardization of metadata and data formats and sharing of data in the Lattice community
 - ▶ WIP: Technology for a analysis platform – could strive to move cross-experiment analysis/interpretation activities there
 - ▶ A possibility which can be studied (decision would depend on many factors): Operate INSIGHT software on software framework/environment key4HEP shared with **all** major future HEP experiments (LUXE, EIC, FCCee, ...) with shared underlying technology for the event data model, conditions databases, alignment, ...